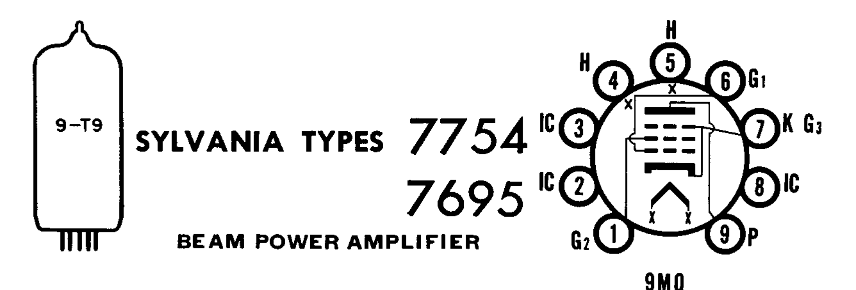


SYLVANIA TYPES 7754 7695

BEAM POWER AMPLIFIER

The 9-T9 design utilizes a T-9 (1⅛″ Dia.) bulb based to fit a standard 9-pin miniature socket. Advantages of the 9-T9 include an increase in the heat dissipation safety margin, as compared to 9-pin miniature tubes employing T-6½ (13/16″ Dia.) bulbs.

MECHANICAL DATA

Bulb	Special, T-9
Base	9-Pin, Same as E9-1, except Bulb Diameter
Outline	See Drawing
Basing	9MQ
Cathode	Coated Unipotential
Mounting Position	Any

ELECTRICAL DATA

HEATER CHARACTERISTICS

	7754	7695
Heater Voltage	6.3	50 Volts
Heater Current[1]	1200	150 Ma
Maximum Heater Current Range[2]		140-160 Ma
Heater-Cathode Voltage (Design Maximum Values)		
Heater Negative with Respect to Cathode		
Total D C and Peak		200 Volts Max.
Heater Positive with Respect to Cathode		
D C		100 Volts Max.
Total D C and Peak		200 Volts Max.

DIRECT INTERELECTRODE CAPACITANCES (approx.)

Grid No. 1 to Plate	0.75 μμf
Input: g1 to (h+k, g3+g2)	14 μμf
Output: p to (h+k, g3+g2)	9 μμf

RATINGS (Design Maximum Values)

Plate Voltage	150 Volts Max.
Grid No. 2 Voltage	150 Volts Max.
Plate Dissipation	16 Watts Max.
Grid No. 2 Dissipation	2.5 Watts Max.
Grid No. 1 Circuit Resistance	
Fixed Bias	0.1 Megohm Max.
Cathode Bias	0.5 Megohm Max.

CHARACTERISTICS AND TYPICAL OPERATION

	Class AB1 Push-Pull		Class A1 Single Tube		
Plate Voltage	130	140	130	140	Volts
Grid No. 2 Voltage	130	140	130	140	Volts
Grid No. 1 Voltage	−12	—	−11	—	Volts
Cathode Resistor	—	50	—	100	Ohms
Peak AF Grid No. 1 Voltage	11.3	11.3	11	11.3	Volts
Zero Sig. Plate Current	195	210	100	100	Ma
Max. Sig. Plate Current	220	210	108	100	Ma
Zero Sig. Grid No. 2 Current	9	9	5	5	Ma
Max. Sig. Grid No. 2 Current	24	20	15	14	Ma
Transconductance	—	—	11,000	—	μmhos
Plate Resistance (approx.)	—	—	7000	—	Ohms
Load Resistance	—	—	1100	1100	Ohms
Load Resistance (P1 to P1)	1800	1500	—	—	
Max. Signal Power Output	10	10	4.5	4.5	Watts
Total Harmonic Distortion	6	4	11	11	Percent

SINGLE ENDED PUSH-PULL, CLASS A TRANSFORMERLESS OPERATION (See Circuit and Curve)

Supply Voltage	280 Volts
Plate Load Resistance	500 Ohms
Grid No. 2 Resistors (Rc2)	4000 Ohms
Peak AF Grid No. 1 Voltage	10.5 Volts
Power Output	5 Watts
Distortion	10 Percent

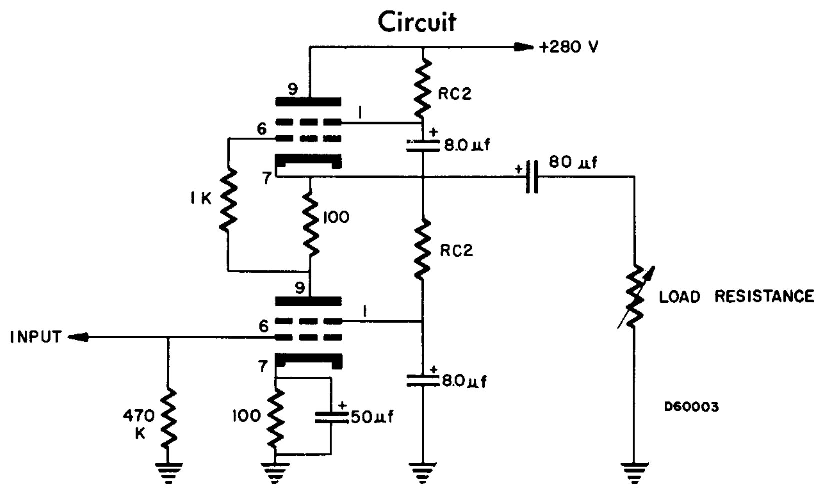
NOTES:

1. For series heater operation, equipment should be so designed so that at normal supply voltage bogey tubes will operate at this value of heater current.
2. Design Maximum Values.

APPLICATION

The Sylvania Type 7695, beam power pentode, features remarkably high power sensitivity as an audio power amplifier. In Class A1 operation, it can deliver 4.5 watts of power with a B+ voltage of only 130 volts. As a result, the 7695-7754 makes possible economies in power supply requirements.

Single Ended Push Pull Circuit



Single-Ended, Push-Pull, TRANSFORMERLESS OPERATION (See Circuit)

POWER OUTPUT, DISTORTION, AND CATHODE BIAS VS SCREEN RESISTANCE PEAK DRIVE SIGNAL = BIAS

C60079

POWER OUTPUT
RL=800 OHMS
RL=500
RL=250 OHMS
DISTORTION
RL=250 OHMS
RL=500
RL=800
DEVELOPED CATHODE BIAS
RL=250 OHMS
RL=500
RL=800

CATHODE BIAS (VOLTS): 5, 7, 9, 11, 13, 15
DISTORTION (%): 0, 2, 4, 6, 8, 10
POWER OUTPUT (WATTS): 0, 1, 2, 3, 4, 5

GRID NO 2 RESISTOR (RC2) KILOHMS: 1, 2, 3, 4, 5, 6, 7, 8